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Implementing The Tracking Network

breakout ABSTRACT

Abstract No. 11

TITLE

LINKAGE OF DRINKING WATER CONTAMINANT AND BIRTH OUTCOME DATA FOR EPHT

TRACK

Network Content

OBJECTIVES

Methods developed and used as part of this project can be readily applied to other drinking water contaminants and spatially referenced health outcome data. NYSDOH will share its experiences in water supply boundary development and drinking water data linkage with other EPHT states to help develop a national template for tracking key drinking water contaminants.

SUMMARY

Drinking water contaminants have been identified as one of the key measures for tracking in the implementation of the EPHT network. Through the New York State Department of Health (NYSDOH) EPHT project we have successfully linked data on trihalomethanes (THM) in drinking water to data on low birth weight, prematurity, and birth defects. Data on birth outcomes were obtained from the NYSDOH Congenital Malformations Registry and Vital Statistics Office. Levels of drinking water contaminants are reported by public water suppliers to the NYSDOH Safe Drinking Water Information System database (SDWIS).

NYSDOH developed a GIS data layer of water supply system boundaries in NYS which includes over 1,100 individual boundaries and encompasses over 85% of the state's population. THM data from SDWIS were linked to the GIS water supply boundary layer through a common public water supply identifier. Birth records were geocoded to their street address at birth to provide a spatial reference for the linkage to the water supply boundary layer. An exposure metric was developed to assign quarterly water contaminant sampling results to each pregnancy trimester. This metric used a time weighted average of all temporally relevant samples. The association between THM levels and birth outcomes was investigated using exposure stratified analysis to identify crude patterns and trends. Logistic regression analysis was also used to investigate these relationships while adjusting for potential confounders as identified in the literature as associated with both the outcome and exposure.

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